

# Tolling Puget Sound's Roadways— Feasibility and Revenue Potential

## Why Study Tolling?

The Puget Sound region's transportation needs far exceed available funding. Increasing traffic congestion and safety concerns over aging infrastructure is calling attention to the need for new revenue sources for transportation improvements. Tolling major highways and bridges has been suggested as a possible funding source for several major corridor projects in the region and as part of a regional funding package.

WSDOT has conducted a series of toll analyses and is providing this preliminary information to decision-makers, such as the State Legislature and Transportation Commission and the Regional Transportation Improvement District (RTID), who will determine what role tolls will play in funding regional transportation solutions. The RTID is a legislatively authorized body that is framing a transportation improvements funding package for King, Pierce, and Snohomish Counties for approval by the voters.

## What Was Studied

The Washington State Department of Transportation (WSDOT) has evaluated the role of tolling on Puget Sound highways in two ways: individual tolls for three major corridor projects and on a regional system-

wide level. All studies assumed the use of electronic toll collection to avoid the congestion and land requirements associated with tollbooths.

## What Do the Studies Tell Us?

These studies provide useful information on the range of revenues possible and what would be the likely impacts of tolling. The results of these studies are still very preliminary. Additional analysis is needed to accurately predict the amount of revenue generated and to fully understand the impact and implementation issues associated with specific tolling proposals.

### Individual Roadway Tolling Studies

Several major WSDOT projects have assessed how tolling will work on individual corridors, if no other roadways were tolled.

These studies were conducted separately, and used similar but not identical methodologies. The I-405 Corridor Program looked only at a High Occupancy/Toll (HOT) lane concept and did not analyze other tolling concepts. HOT lanes allow users who do not meet the high occupancy vehicle (HOV) definition to pay a fee to use the lane when there is excess capacity.

Over For More on System Tolling



### **2014 Projected Individual Toll Revenue Range**

Toll Facility	Toll Distance	2014 Yearly Revenue Range in Inflated Dollars	
		Low End (million)	High End (million)
SR 99 (Alaskan Way Viaduct)	4.9 miles ( <i>Roy Street to South Spokane Street</i> )	\$6	\$9
I-405 Managed Lanes	30.2 miles ( <i>Entire length</i> )	\$20	\$40
SR 520	12.8 miles ( <i>Entire length</i> )	\$18	\$31

### 2014 Projected System Regional Toll Revenue Range

Toll Facility	Toll Distance	2014 Yearly Revenue Range in Inflated Dollars (million)	
		Low End	High End
SR 99 (Alaskan Way Viaduct)	6.1 miles ( <i>Roy Street to 1<sup>st</sup> Avenue South Bridge</i> )	\$8.5	\$14.8
SR 509	11.8 miles ( <i>1<sup>st</sup> Avenue South Bridge to I-5 at SR 516 interchange</i> )	\$11.5	\$20.1
I-5	43.1 miles ( <i>North I-405 interchange to Pierce County</i> )	\$102.8	\$189.2
I-405	30.2 miles ( <i>Entire length</i> )	\$64.4	\$119.0
SR 167	14.1 miles ( <i>I-405 to Pierce County</i> )	\$17.9	\$32.5
I-90	13.3 miles ( <i>I-5 to SR 90</i> )	\$24.1	\$41.8
SR 520	12.8 miles ( <i>Entire length</i> )	\$23.0	\$40.0
Total Network	131.3 miles	\$252.1	\$457.3

#### Regional Toll Revenue Feasibility Study

WSDOT initiated the regional tolling analysis to look at how a regional tolling system would perform. This was done because pricing only one route will affect travel patterns on other routes, yet not produce sufficient revenues alone to construct needed transportation improvements in that corridor. The objective of this study was to model a regional toll highway network to identify the potential range of revenue that might result from widespread tolling to manage congestion.

Modeling was conducted for a 131-mile freeway system of the major highways in the central Puget Sound region, including those facilities slated for major capital improvements. WSDOT is not proposing that a regional toll system be established; rather, this work was conducted to provide a “bookend” opposite that of tolling individual roadways. This will answer the question of how much revenue could likely be created when tolls are implemented to optimize network performance. (See the shaded box for a description of assumptions.)

The initial results show that from \$250 to \$460 million in annual revenue may be achieved the first year if the 131-mile central Puget Sound freeway network is tolled in 2014, not including initial construction and on-going operations costs. Again, these revenue projections are very preliminary and additional analysis will be required prior to making any decisions on tolling. The table above summarizes the revenue that may be generated if these corridors are tolled as part of a regional system.

#### A Few Conclusions and Comparisons:

The potential for raising revenue with tolls is tied to some key assumptions and conditions:

- The revenue potential and traffic impacts of tolls depend greatly on the approach that is used. The analysis of individual freeways, for example the SR 99 corridor, tells us that tolling solely on that north-south facility spills some users onto city

streets or I-5 to avoid paying a toll. This reduces revenue and clogs other routes. When the other north-south routes, I-5 and I-405, are also tolled, diversion is reduced and toll revenues on SR-99 increase.

- Timing of tolling new facilities is an issue. This requires thinking carefully about when toll revenue could be available to pay for construction, and to support bonding capacity. In addition, construction phasing will also affect the ability to toll and the amount of toll revenues generated.
- The objectives and regulations of tolling need further clarification. For example, raising \$250 to \$460 million depends on tolling I-5 and I-90. Under today's laws, these roadways cannot be tolled. Tolling strategy also varies based on whether tolls are set to emphasize raising revenues or to manage traffic.

#### **We Assume:**

- The following improvements have been made: replacing the earthquake-damaged SR 99/ Alaskan Way Viaduct with a six-lane facility; completing the south extension of SR 509; adding capacity to SR 520, I-405, and a portion of SR 167; and extending limited access on SR 99 from Spokane Street south to First Avenue South Bridge and connecting with SR 509.
- Full tolling implementation occurs in 2014.
- Tolling facilities are electronic to eliminate slowing traffic for toll collection and to allow distance-based tolls that vary by time of day and location according to demand conditions.
- Tolls are set dynamically to minimize overall highway and arterial network travel times; users would receive real-time information on travel costs.
- General-purpose freeway lanes are tolled, as well as HOV lanes that can be 'bought into' by single-occupant vehicles on I-405. HOV lanes are assumed 3+ occupancy.

#### **What's Next?**

WSDOT will use this information in conjunction with state, regional and local decision-makers to see if tolls contribute meaningfully to funding transportation solutions. If decision-makers decide that tolling is in our future, we will more fully analyze how much revenue will be generated by tolls, the impact on freeway congestion, and likely effects on local streets and arterials of "toll-avoidance" trips diverted from the freeways.

For more information about the toll feasibility report or for a complete copy of the report, please contact:

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For a complete copy of the regional or corridor reports, please visit the following website:

<http://www.wsdot.wa.gov/projects/tolls>